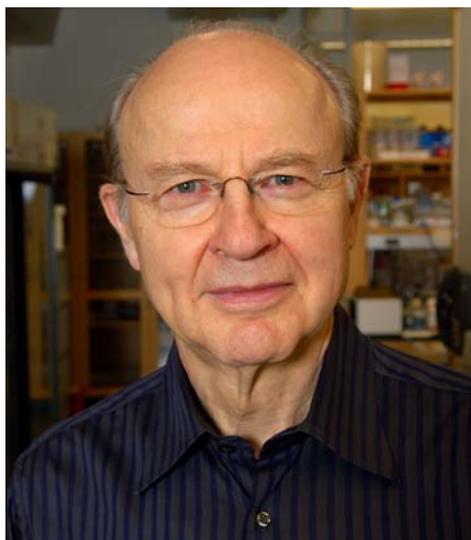


**2012 BEACH  
DISTINGUISHED LECTURES****DEPARTMENT OF BIOCHEMISTRY**

Presented by  
**Robert Roeder**  
Biochemistry and Molecular Biology  
The Rockefeller University



*Monday, November 12 at 4:00*

*Deans Auditorium (PFEN)*

*“Transcriptional regulatory mechanisms: function of diverse coactivators “*

*Tuesday, November 13 at 4:00*

*Deans Auditorium (PFEN)*

*“Transcriptional regulatory mechanisms: from B cell regulatory factors to leukemic fusion proteins”*

**Transcriptional regulatory mechanisms: function of diverse coactivators**

Transcriptional regulation by gene- and cell-specific DNA-binding factors underlies key events in development and in cell growth, differentiation and transformation. However, their effects on specific genes depend upon complex arrays of cofactors (coactivators and corepressors) that add additional layers of regulation. These cofactors include both chromatin modifying factors and other factors (e.g., Mediator, TAFs) that facilitate more direct communication between promoter-bound regulatory factors and the general transcription machinery. Emphasizing biochemical approaches, the function of selected cofactors will be discussed in relation to gene regulation by nuclear hormone receptors and the tumor suppressor p53.

**Transcriptional regulatory mechanisms: from B cell regulatory factors to leukemic fusion proteins**

The function of gene- and cell-specific transcription factors is effected and regulated through the action of diverse transcriptional co-activators. Studies of E proteins (E2A and HEB), which are involved in early B cell differentiation events, have uncovered functions through interactions with the histone acetyl transferase p300 and the TAF4 subunit of general initiation factor TFIID. Insights from these studies have led in turn to investigations of the mechanism of action of leukemogenic fusion proteins, including AML1-ETO and E2A-PBX1, through both biochemical and cell/animal-based assays. New mechanisms of action of E proteins and leukemogenic fusion proteins will be discussed.

**About the Beach Lectures:**

David W. Beach was born in 1925 in London, England. Following service in the Royal Navy, he married Doris Holmes and began his career as a Chartered Accountant. Feeling the urge to expand his horizons, he moved to Canada and began a series of jobs in the aluminum industry that included General Manager of Kawneer, Canada and Vice-President of Kawneer, Inc. As Vice-President of ALUMAX Aluminum Corporation he was instrumental in making it one of the largest and most profitable aluminum companies in the world, prior to his retirement. Inspired by his son's enthusiasm for science, he has chosen to share his good fortune by supporting this biochemistry graduate program. This long-term support is intended to promote intellectual curiosity, a commitment to excellence, and an appreciation of science in all those involved.